

STUDIES IN PACIFIC COAST LEPIDOPTERA

Continued

DR. JOHN A. COMSTOCK

A NEW MELITAEA FROM OREGON

Collecting in the vicinity of Crater Lake, Oregon, in the late summer of 1923 was productive of a generous list of diurnals, one of which proves to be a new species.

MELITAEA BRIDGEI. sp. nov.

Male. Superior surface.

Primaries. Ground color, brownish black, fringes black interspersed with a few yellowish scales; a narrow orange brown or ferruginous marginal line, interrupted at nervules; internal to this a series of six to eight lunate or irregular spots, the largest being placed between the second and third median nervule; internal to this a sinuous row of six to eight quadrate or irregular spots a shade lighter in color than the previous two rows. Internal to this is a fourth row of still lighter quadrate spots, seven in number; those in the radial interspaces tending to fuse with equivalent spots of the third row. This row is formed in a sinuous line, the upper portion strongly concave medially. Two small orange-brown spots are placed lateral to the discocellulars. Two elongate spots occur in the lateral portion of cell, the medial one being lighter in color. Three or four small irregular spots occur in the basal portion of cell and one or two round or irregular spots are placed just below the cell.

Secondaries. Ground color and series of spots of same shade as corresponding rows in primaries. Fringes, creamy yellow, interrupted with black at ends of nervules; marginal row of six or seven narrow elongate spots; submarginal row of lunate or irregular spots, largest in second and third median interspaces; internal to this a row of five or six irregular spots. A fourth row of seven or eight quadrate or irregular spots in the limbal area, concave medially. Basal area completely brownish-black except for two spots in outer portion of cell, the lateral of which is lunate, while the medial is a mere point of a lighter color.

Male. Inferior Surface.

Primaries. A submarginal line corresponds to the same line on superior surface, but is more clearly defined, and interrupted at nervules by narrow black lines; internal to this a row of eight lunate, yellowish spots, shaded internally by a wide black band. The third and fourth rows of spots have fused so as to form a continuous band covering most of the limbal area, with fine black streaks on the nervules, dividing it into elongate quadrate spots. The ground color of this band is orange-brown, but medially it shades to a creamy buff. Medial to this are numerous irregular spots on a black ground. The cell is orange brown, except for a band of creamy buff crossing the outer third, and edged with black, and an irregular spot in the inner third, similarly colored and edged.

Secondaries. Narrow submarginal line as on primaries, with similar interruptions at nervules; internal to this seven lunate spots of a clear creamy yellow, the largest placed between the second and third median nervule. Internal to this a black irregular line medial to which is a row of seven quadrate or irregular spots, the two nearest costa, creamy yellow, the remainder orange-brown; internal to this a broad band of irregularly quadrate creamy yellow spots separated by the black lines of the nervules, and also crossed transversely by two sinuous black lines, one laterally, the other medially placed. Basal area orange-brown with from four to six irregular creamy-yellow spots, bordered with black.

Head, thorax and abdomen; black above, creamy yellow below.

Antennae; black, finely annulated with yellow, club tipped with yellow buff.

Expanse. Male $1\frac{3}{4}$ in. (35 mm.) Female $1\frac{1}{2}$ in. (39 mm.)

The female differs from the male principally in the fact that the series of lighter colored spots are more pronounced and of a lighter shade.

Types: Holotype, male. Crater Lake, Oregon, August 2, 1923.

Allotype female. Crater Lake, Oregon, August 2, 1923.

Paratypes Nos. 1 to 11, all taken at Crater Lake, Oregon, August 2, 1923. Ten males. One female.

The holotype, allotype, and eight paratypes, in the collection of the Southwest Museum, Los Angeles, California.

Paratype No. 9, deposited with Dr. Wm. Barnes, Decatur, Illinois.

Paratype No. 10, deposited with the National Museum.

Paratype No. 11, deposited with the Canadian National Collection, Dr. McDunnough, Ottawa, Ontario, Canada. The holotype, allotype and paratype No. 1 to be subsequently shown in colors on plate No. 38.

This species is intermediate between *whitneyi* Behr. and *hoffmani* Behr. It is darker than either species. From *hoffmani* it may be distinguished by the fact that the lighter yellowish band of spots in the limbal area, superior surface, is only half the width of *hoffmani*. This band, in the last named species tends to fuse with the third band throughout almost its entire length. The colors are very close in both these species, whereas in *whitneyi*, they are of a more ruddy hue.

I take pleasure in naming this species for Dr. Norman Bridge, whose interest in and support of science receives all too little recognition in proportion to the good works for which he and Mrs. Bridge are responsible. This, I make bold to do without asking his permission.

Notes on the Genus *Cercyonis*

By John Adams Comstock

In the "Bulletin" for January-February 1924 we published a paper on *Cercyonis stephensi* Wright, in which it was demonstrated that the "species" was only a color form of the insect which has been held in collections under the name *gabbii*. In order to fix the place of the latter species reference was had to Boisduval's original description and also to Oberthur's excellent figure of the types in his Volume IX Etudes de Lepidopterologie Comparee. We were at once impressed with the fact that his figure ♂ 2180 represented the species that we have been calling *gabbii*, while the ♀ 2181 more nearly approaches *C. boopis*. In order to make certain of our point, a specimen of our so called *gabbii* was sent to Drs. Barnes and Benjamin at Decatur for determination, and a series was sent to Dr. Oberthur, together with one specimen of our so called *ariane*.

Dr. Benjamin reported that "the Satyrid you sent I have been calling *S. gabbii*. We have five from Dr. Lindsay's trip through Modoc County."

Dr. Oberthur's reply was so enlightening on several points that his entire letter is here incorporated.

October 31, 1923.

"Dear Dr. Comstock:

Thanks for the documents which I received from you recently.

I can give you the following information concerning *Satyrus ariane* Boisduval:

On page 21 (*Lepidoptera of California*, Brussels, 1869) Boisduval writes as follows:

"Wings black-brown, forewings have dark eyes on both sides with brown iris and white pupil, hind wings underneath with two dark wavy streaks, six eyes many small faded ones worn out."*

This is exactly the ♂ which I have. I am showing the Boisduval type under the No. 2180 on plate CCLX in Vol. IX of 'Etudes de Lepidopterologie Comparee.'

The female No. 2181 (many small worn out faded eyes) does not seem to be typically like the male No. 2180. Isn't that a very large female of another species?

On page 62 of the mentioned book, '*Lepidopteres de la California*' Boisduval says, 'Mr. Lorquin sent us, as a new species, a variety smaller than the type which we described. It does not differ from the ordinary specimens, except that the females have eyes with less pronounced iris and the design on the under side is less clear.'

Boisduval has not named this new species of which he has two males and one female in his collection next to the *ariane*.

Lorquin was right in saying that he sent a new species different from *ariane*.

From all this the result is that the real *ariane* Boisduval shown under No. 2180 (plate CCLX Vol. IX *Lepidoptera Comparee*) is the species which you sent me under the name *gabbii*.

The name *gabbii* should be changed to *ariane*.

With regard to the *Satyr*id which you sent me under the name *ariane*, this is exactly the new species, according to Lorquin, not named by Boisduval, but which he mentions on page 62 of his book, "smaller, design on under-side less clear."

Regarding the ocelli with the iris less pronounced in the females, (just as in the ♂♂ it is certain that *ariane* Boisduval ♂ (fig. 2180) has much stronger ocelli on the underside of the lower wings (secondaries) than the new species of Lorquin.

To conclude, *ariane* Boisduval ♂ originally described, is the one shown in fig. No. 2180 and only the flies which are corresponding with this fig. 2180 should be named *ariane* and your *ariane*, should have a new name.

The pictures which I have published from '*Specimina typica americana Boisduvalliana*' have given rise to many interesting corrections in regard to the naming of the Californian species of *Lepidoptera* and the pairing of the sexes in the *Hesperidae*.

Mr. Lindsay writes me as follows and I think that he is right:

According to my notes, the figure 2088 (plate CCXL Vol. IX *Lepid. Comparee*) *pratinctola* ♂ appears to be *nemorum* as you suggest, while 2089 is the ♀ of *sylvanoides* Boisduval. Your fig. 2085, one of Boisduval ♀ *sylvanoides* represents *campestris* ♀ while your figures 2083 and 2084 represent the two sexes of *sylvanoides*. The ♂ type should of course fix the species.' (I believe he should have said 'represent two males of *sylvanoides*').

There is no doubt that it would be very instructive to publish more about the synonymy of the different Californian species of *Lepidoptera* described by Boisduval and the errors which this author might have made.

To-morrow begins the New Year 1924. Please accept my best wishes of good luck for you and all those who are dear to you."

Cordially yours,

Charles Oberthur.

Boisduval evidently drew his description from a mixed series containing two forms, since the female chosen by Dr. Oberthur is obviously the form *boopis*. It is reasonably certain also that this series does not contain the dark form that has been considered as *ariane* by most of the American lepidopterists. Dr. Oberthur's letter strongly suggests the desirability of restricting the type to the specimen which he has figured, (2180) and I propose in this revision to so

*The original description is as follows:

"59. *Satyrus Ariane*, Boisd.

Alae nigro-fuscae; anticae utrinque oculis duobus atris, pupilla alba iride fulvo; posticae subtus strigis duabus undulatis obscuris, ocellis sex plus minusve obsoletis.

Il a la port et la taille de notre *Phædra*, et doit être placé entre cette espèce et l'*Alope* des autres parties des Etats-Unis.
Commun en juillet dans les forets herbenses."

restrict it. This leaves for our consideration the true status of the dark form above referred to. In this connection I have received from Dr. Benjamin a letter which throws valuable light on the subject and from which I quote.

"We have a specimen marked *typical incana* X. T. Edw. Coll J. McD. This is your *incana*, apparently common in Plumas Co."

Incana was placed by Dr. McDunnough as a synonym of *ariane* Bdv. after having made this comparison. *Incana* is therefore available to cover this dark form, without the necessity of erecting a new name as suggested by Dr. Oberthur.

I have long suspected that *C. wheeleri* was only a form of what we have been calling *gabbii*, (the true *ariane* Bdv. as above) in which the anterior ocellus was paired. The following quotation from Dr. Benjamin (in litt) confirms this. "I have examined the types of *hoffmani* Strkr.—not a hurried examination with lack of material at Chicago, but a careful study here.

Mr. Gerhart brought them to me and I had the chance to compare them with all our material. There can be little doubt but that *hoffmani* was named from type material which also supplied the types of *wheeleri* and that both of these names are synonyms, *wheeleri* having priority. . . . with a long series of *gabbii* before us we are inclined to regard *wheeleri*, (judging from the types of *hoffmani*) as simply a local race of *gabbii*, with an extra spot on the primary. Specimens of *gabbii* from Modoc County, California, are otherwise extremely close to the types of *hoffmani*. The elongation of the spots on the underside of the secondaries are practically duplicated in occasional *gabbii*."

Grinnell's description of *C. behri* would seem to place it in the *paulus sylvestris* group although we have no specimens from Mt. Tamalpais that exactly tally with the description.

The California Cercyonids would therefore be grouped as follows:

1. *Cercyonis alope ariane* Bdv.
 gabbii Edw.
 form ♀ *stephensi* Wright.
 - a. *wheeleri* Edw.
 hoffmani Strkr.
 - b. *boopis* Behr.
 form *incana* Edw.
 form *baroni* Edw.
2. *C. sthenele* Bdv.
3. *C. sylvestris* Edw.
 okiis Oberth.
 - a. *paulus* Edw.
 - b. *behri* Grinnell.?
4. *C. oetus* Bdv.
 charon Edw.

Notes on the Genus *Pieris* and *Eurymus*

In a previous paper* I called attention to the fact that the yellow form of *Pieris sisymbrii* had been named *flava* by Edwards notwithstanding the fact that he had used the same name within the genus for a yellow form of *P. napi*. This raises the point as to whether it is permissible to use the same name for forms of two closely related species within a single genus. I have felt that a practice of this type would lead to considerable confusion and since the primary purpose of creating names in order to differentiate between certain conditions is only one devised for greater clarity, I considered it justifiable to rename the form *flavitincta*.

*Bulletin Southern California Academy of Sciences, Vol. XXIII, Part 1, 1924.

In a recent letter from Dr. Benjamin he has pointed out that there is no definite rule thus far created to establish the point, and some authorities may differ on the propriety of the new name.

I would, however, point out that Dr. McDunnough has stated in a letter to me that "flava" is preempted in the genus for a form of *napi* and is therefore not available," which would seem to lend his concurrence in my opinion.

In the case of *Eurymus* we have the albinic female of *eurytheme* named *alba* Edw. and the same name has also been applied to the white female of the sub-species *amphidusa*. This well illustrates the confusion that would arise were this practice to be generally followed. I believe, therefore, that we should use the later designation for the albinic female *amphidusa* which was given to it by Cockerell, namely *pallida*. While I have not used these names in labeling my plates I propose to include them in the text of my forthcoming work on the Butterflies of California.

It is to be hoped that a ruling will be incorporated in the international code determining this point.

BUTTERFLIES OF CALIFORNIA

— By —

DR. JOHN A. COMSTOCK

(Continued from September-October Issue)

The last issue of the "Bulletin" concluded our treatment of the Genus *Pieris*. One exceedingly common variety has not been included in the colored figures, but is briefly mentioned here—i. e., the spring form of the **Cabbage Butterfly**. This was named *immaculata* by Skinner and Aaron. It may be distinguished from the typical *rapae* by its somewhat smaller size, and lack of spots on the upper and under side of primaries. It represents the brood that emerges from overwintering pupae. Color Plate IX of this issue, illustrates the species which were included in our text of the July-August and September-October issues, pages 124, 125, and 157. The footnote on page 125 should be corrected to read—The types and cotype No. 1 are accurately pictured on **Plate VIII**, figures 12, 13, 14, to be subsequently published in the Bulletin.

GENUS *NATHALIS* Boisduval.

The Dwarf Yellows

The Dwarf Yellow (*Nathalis iole* Bdv.) occurs in the southern portion of the state, and has been reported sparingly as far north as Inyo County. It is a lowland and foothill species, with a tendency to confine itself to restricted localities, and to be erratic and irregular in appearance. It is on the wing from February to September, with probably two or more broods to account for its long season. The larval foodplants are *Erodium* (*alfilerilla*) *Dyssodia* (*fetid marigold*), *Helenium* (*sneezeweed*) et cetera. The species is pictured on Plate X, figures 1 to 3.

GENUS *EUCHLOE* Hubner

The Marbles

Edward's Marble (*Euchloe creusa hyantis* Edw.) and the Southern Marble (*E. creusa lotta* Beut) represent two races of a species of butterfly, the typical form of which does not occur in California. Both varieties are rare. They should be sought in the early months